

IN THE CLAIMS:

Please amend claims 3, 5-7, 14-15, and 23 as follows:

1-2. (Cancelled)

3. (Currently Amended) A method for displaying a gene expression phenomenon in one or more living organisms in a system comprising ~~memorizing means a database~~ that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said ~~memorizing means database~~ to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint by a user via a keyboard or a mouse on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said ~~memorizing means database~~, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

simulating and chronologically displaying a change in shape of said cell or site of said living organisms caused by an external stimulation artificially incurred according to a planned experiment and a change in shape of a cell or site caused by internal activities of said cell or site of said living organisms; and displaying an animation of a three-dimensional image representing the gene expression phenomenon from a certain viewpoint at a certain instant of time.

4. (Cancelled)
5. (Currently Amended) A method for displaying a gene expression phenomenon in one or more living organisms in a system comprising ~~memorizing means a database~~ that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said ~~memorizing means database~~ to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:
 - displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;
 - setting a viewpoint by a user via a keyboard or a mouse on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;
 - reading the gene expression data of said cell or site of said living organisms out of said ~~memorizing means database~~, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon;
 - displaying in parallel three-dimensional images representing expression phenomena for each cell or site of said living organisms of multiple species; and
 - comparing the three-dimensional images representing the gene expression phenomena for each cell or site of said living organisms of multiple species to visually display similarities therebetween ~~in a predetermined display format~~.

6. (Currently Amended) A method for displaying a gene expression phenomenon in one or more living organisms in a system comprising ~~memorizing means a database~~ that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data

associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said ~~memorizing means~~ database to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint by a user via a keyboard or a mouse on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said ~~memorizing means~~ database, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

mapping said expression data of said cell or site along a time axis to be displayed in one color or multiple colors in various scales depending on a gene expression frequency in said cell or site.

7. (Currently Amended) A method for displaying a gene expression phenomenon in one or more living organisms in a system comprising ~~memorizing means~~ a database that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said ~~memorizing means~~ database to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint by a user via a keyboard or a mouse on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said memorizing means database, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

mapping expression data of two or more cells or sites on coordination points along an axis to display in one color or multiple colors in various scales a change in gene expression frequency in said cells or sites in parallel.

8-13. (Cancelled)

14. (Currently Amended) A method for displaying a gene expression phenomenon in one or more living organisms in a system comprising memorizing means a database that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said memorizing means database to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint by a user via a keyboard or a mouse on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said memorizing means database, creating a plurality of three-dimensional images representing the gene expression phenomenon at the

viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

coordinating and displaying, ~~in a predetermined display format~~, a three-dimensional image of the expression phenomenon and a position of a gene on a gene map that causes the expression phenomenon.

15. (Currently Amended) A method for displaying a gene expression phenomenon in one or more living organisms in a system comprising ~~memorizing means a database~~ that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said ~~memorizing means database~~ to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint by a user via a keyboard or a mouse on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said ~~memorizing means database~~, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

coordinating and displaying, ~~in a predetermined display format~~, three-dimensional images of the expression phenomenon of a gene in two or more cells or sites and a position of the gene on a gene map that causes the expression phenomenon.

16-22. (Cancelled)

23. (Currently Amended) A method for displaying a gene expression phenomenon in one or more living organisms in a system comprising ~~memorizing means a database~~ that memorizes, for each cell or each site of said living organisms along a time axis, data indicative of a shape of said cell or site and expression data associated with a degree of expression of the gene expression phenomenon in said cell or site along a time axis; and processing means adapted to obtain said data indicative of the shape and expression data that are memorized in said ~~memorizing means database~~ to visualize and display the gene expression phenomenon on a display screen, wherein said method comprising:

displaying as a three-dimensional image on the display screen a shape of said living organisms of which the gene expression phenomenon is observed;

setting a viewpoint by a user via a keyboard or a mouse on a three-dimensional space where the gene expression phenomenon in said living organisms displayed is to be observed;

reading the gene expression data of said cell or site of said living organisms out of said ~~memorizing means database~~, creating a plurality of three-dimensional images representing the gene expression phenomenon at the viewpoint set at said second step or at a fixed viewpoint, to display at least one of said three-dimensional images in multiple tones using one color or multiple colors, each of the tones corresponding to a degree of expression of the gene expression phenomenon; and

mapping expression data of a cell or a site of a plurality of genes of one living organism on coordination points on a cylindrical plane, said expression data of each of the plurality of genes being shown as a bar with a height corresponding to a degree of one respect of gene expression phenomenon.